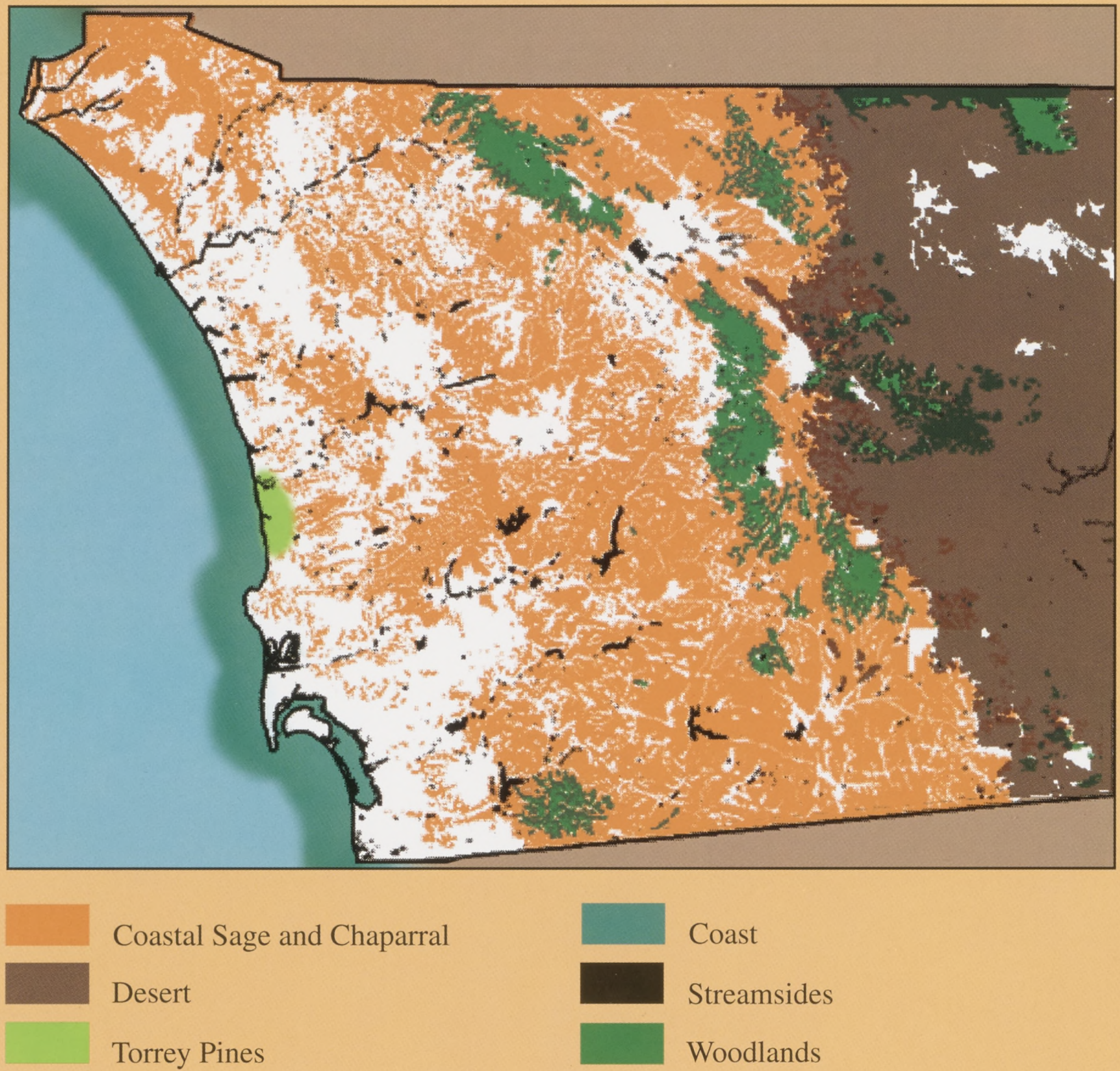
San Diego's Habitats

Zoological Society of San Diego


Coastal Sage and Chaparral
Desert
Torrey Pines
Coast
Streamsides
Woodlands

San Diego’s Habitats

San Diego’s Habitats 3

Coast 5

Coastal Sage and Chaparral 7

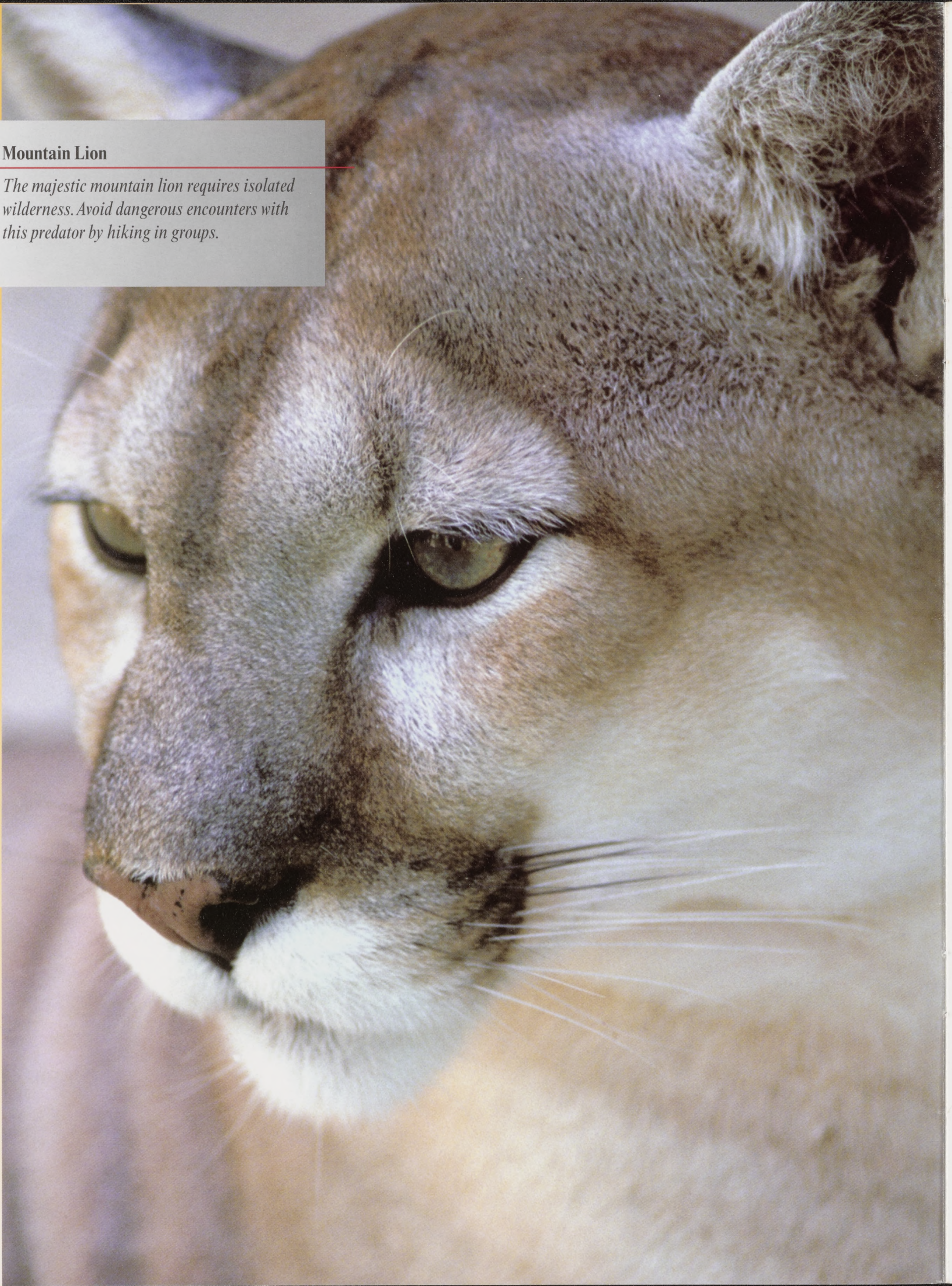
Desert 9

Streamsides 11

Torrey Pines 13

Woodlands and Forests 15

Going, Going...Gone? 17



Mountain Lion

The majestic mountain lion requires isolated wilderness. Avoid dangerous encounters with this predator by hiking in groups.

San Diego's Habitats

The Wild World of San Diego County

What comes to mind when you think of San Diego County? For many of us, it's images of sprawling suburbs, a maze of freeways, and the beautiful city of San Diego itself.

But outside the city and the suburbs lies an older, wilder, San Diego. Take a back road off the freeway and you'll find a natural world of forests and deserts, wetlands, coastline, and rolling brush land little changed by the passage of time and the coming of civilization.

San Diego's diverse and varied wild lands are a rich tapestry of life woven from many habitats, including coastal sage, deserts, wetlands, forests, and beaches. Here, you can drive from one of the richest coastlines in the world through mountains and ancient forests to rugged desert wilderness in just one day.

There's even more to see on foot. Park your car and set out with binoculars and camera and you'll discover new wonders: deer drinking from quiet streams, huge gray whales passing by just offshore, breathtaking displays of desert wildflowers, and more.

Each habitat is home to its own unique communities of plants and wildlife. Each offers countless sights, sounds, scents, and experiences—enough for a lifetime of exploration. Each season brings new blooms, new birds, and new adventures.

You'll find an amazing diversity of life in these wild lands—more bird and plant species live in San Diego County than any other county in the United States. More than 260 species of birds live here for at least part of each year.

As full of life as they are, as rugged and indestructible as they appear, our wild habitats are vulnerable and delicate. Their survival, and the survival of the wildlife they support, depends on a shifting balance between plants, weather, water, soils, predators, and prey. Remove or add an element, alter the landscape, or divide the land with roads, and the local ecosystem may unravel and come apart at the seams. One altered link in the food chain can send waves of change throughout the ecosystem.

Much of San Diego's wild land has already been lost. Our natural habitats have been altered and some of the plants and animals that lived in them have gone extinct.

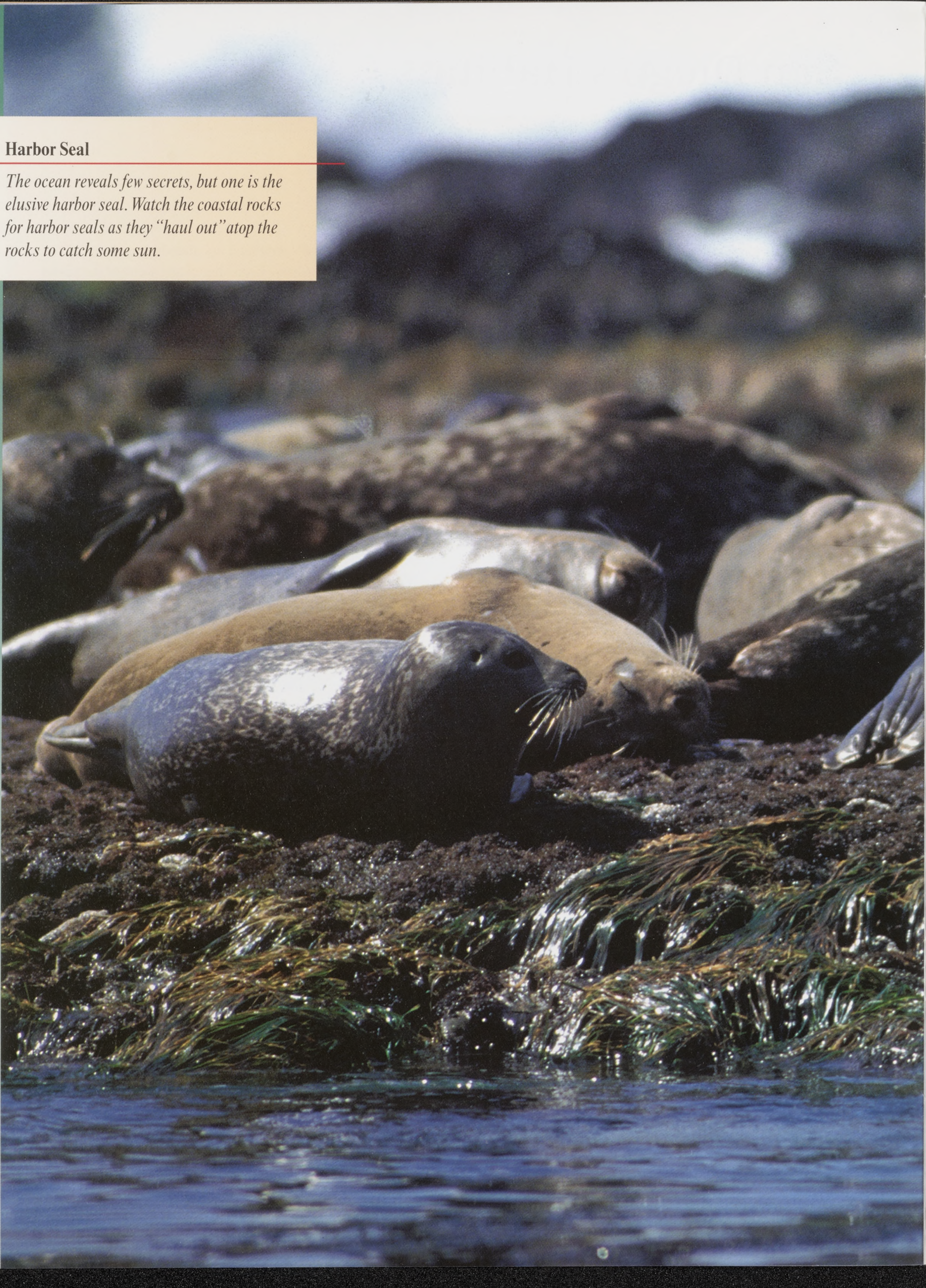
Yet, much still remains. San Diego County is still blessed with hundreds of square miles of healthy, thriving wild lands. Through conservation planning, wise development practices, and increased public awareness, these lands can remain healthy and wild for generations to come.

Encroaching city streets have little impact on coyote populations. This intelligent and omnivorous animal is a rare example of wildlife successfully adapting to urbanization.

This coast horned lizard feeds exclusively on native harvester ants. Introduced Argentine ants eradicate our native ants and threaten the survival of this unique lizard.

Harbor Seal

The ocean reveals few secrets, but one is the elusive harbor seal. Watch the coastal rocks for harbor seals as they "haul out" atop the rocks to catch some sun.



Coast

Mention the coastline, and many people automatically think of beaches. But San Diego County's coast contains a mosaic of other habitats as well, including dunes, bays, estuaries, rocky shores, tide pools, and ocean.

Our coastline is one of our most treasured resources. Known for its beauty, people flock to the coast for recreation, relaxation, and to explore its natural wonders.

Beaches are often crowded with visitors. But there's still an abundance of beach life to be found. Willets, sandpipers, and other shore birds trace the edges of the waves as they scurry along probing the sands for buried treasure in the form of ghost shrimp, mole crabs, lugworms, and other animals. Notice the length and shape of the birds' bills: each is adapted for reaching to a certain depth for the particular kinds of animals found there.

Endangered snowy plovers also dart along the beaches. Sensitive to disturbances, their numbers have steadily declined as more people visit the coast. Careless beachcombers often trample small plover nests in nearby sand dunes. Most nests are now fenced off for their protection.

Terns soar just offshore, including endangered least terns, now protected in well-managed preserves. Lines of pelicans seem to glide effortlessly just inches above the ocean's surface. Awkward-looking when perched, graceful and elegant when they fly, they take on a sense of power as they dive into the ocean to scoop up big bills full of seawater and fish.

Beaches and cliffs also provide vantage points to look for dolphins and whales swimming further out. Some of the best whale watching comes in winter when massive gray whales migrate past, heading south to their mating and calving grounds in Baja California. In spring, as they head north again, mothers with recently born calves are often seen as they stick closer to shore.

The jewel-like tide pools found in rocky areas contain the most rich and diverse congregations of life along the coast. Here, the rocks provide a foothold and protection. Seaweeds and countless animals cling to every possible surface in the crowded pools. The rising and falling tides set the pace, creating distinct zones or communities sorted by the amount of time spent submerged or exposed to the air.

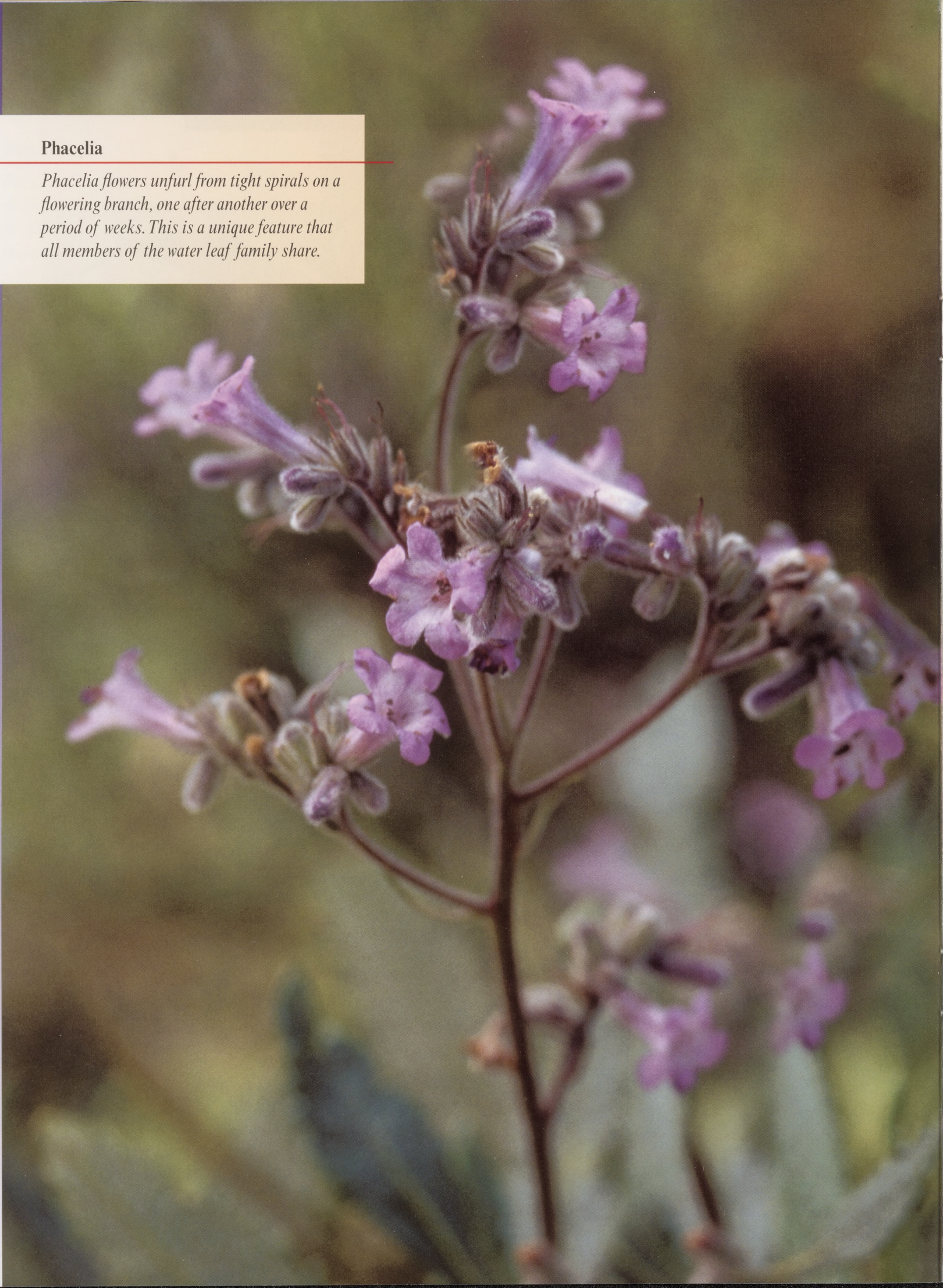
The population of the brown pelican dipped precipitously as a result of DDT. Banning of this once popular pesticide has led to a dramatic recovery of the pelican population.

Our rich coasts provide resources for a wide variety of birds–this combined with diverse inland ecosystems makes San Diego a high-profile birding destination.

Most of our tide pools lie in the middle intertidal zone, alternately exposed and submerged with each day's tides. At low tide, small pools dot large, flat areas of sandstone and boulders and mussel beds cover the rocks. Feather boa kelp—named for its long, narrow fronds—grows among a tangle of luxuriant growths of brown sargassum and other seaweeds. The weeds provide food and shelter for many small animals. Green sea anemones, shrimp, small fishes, slug-like sea hares, and other animals find refuge in the pools until the tide rises again.

Phacelia

Phacelia flowers unfurl from tight spirals on a flowering branch, one after another over a period of weeks. This is a unique feature that all members of the water leaf family share.



Coastal Sage and Chaparral

From seashore to mountains, San Diego County is a land of sage and chaparral. California sagebrush, coyote brush, black sage, bush monkeyflower, and other shrubs once carpeted most of southern California.

Cities and freeways have eaten away at our scrublands—since 1930, agriculture and development have reduced San Diego County's coastal sage habitat from more than 400,000 acres to about 135,000 acres. But you can still see it hugging undeveloped hillsides around the county.

There are two kinds of scrub habitats here. The coastal sage community holds sway from the coast to the foothills below 1,500 feet, where coastal fog moderates the climate. The denser chaparral community takes over at higher elevations between 1,000 and 4,500 feet.

In spring, blossoming monkeyflowers and brittle-bush paint the hillsides bright yellow and red. The flowers of several kinds of sage add more subtle hues of rose, lavender, and purple. In winter, look for the bright red Christmas berry. Also known as California holly, it's the shrub from which Hollywood got its name.

Chaparral grows inland in the higher, drier foothills. Coyote brush, scrub oak, manzanita, wild lilac, chamise, and ribbonwood are the most common plants here, growing together in dense thickets. As in the coastal sage community, the leaves of many of these plants have oils to hold in moisture.

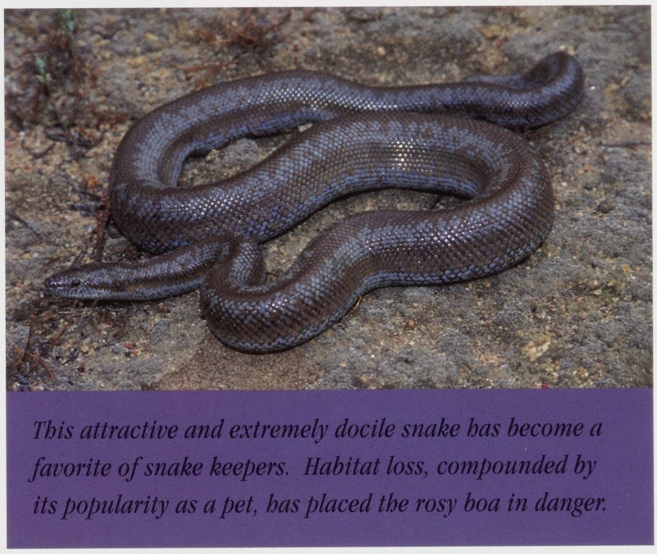
Besides being fragrant, these oils are also flammable, and fires often sweep through the chaparral. Though these fires pose great danger to nearby houses, they're important to the health of the chaparral. Periodic fires help clear away old, dead growth and leave a rich bed of ashes from which new growth can spring. It makes for a delicate balance; the longer the time between fires, the more dead growth builds up, leading to the potential for larger, more destructive fires.

Birds are the obvious wildlife, though even they can be tough to spot among the thick brush. Listen for the soft, catlike "meow" of California gnatcatchers. Watch for California thrashers, scuffling among the leaves to uncover tasty insects or seeds. You might catch glimpses of sage sparrows and least Bell's vireos flitting from bush to bush, or a roadrunner hightailing it across the path.

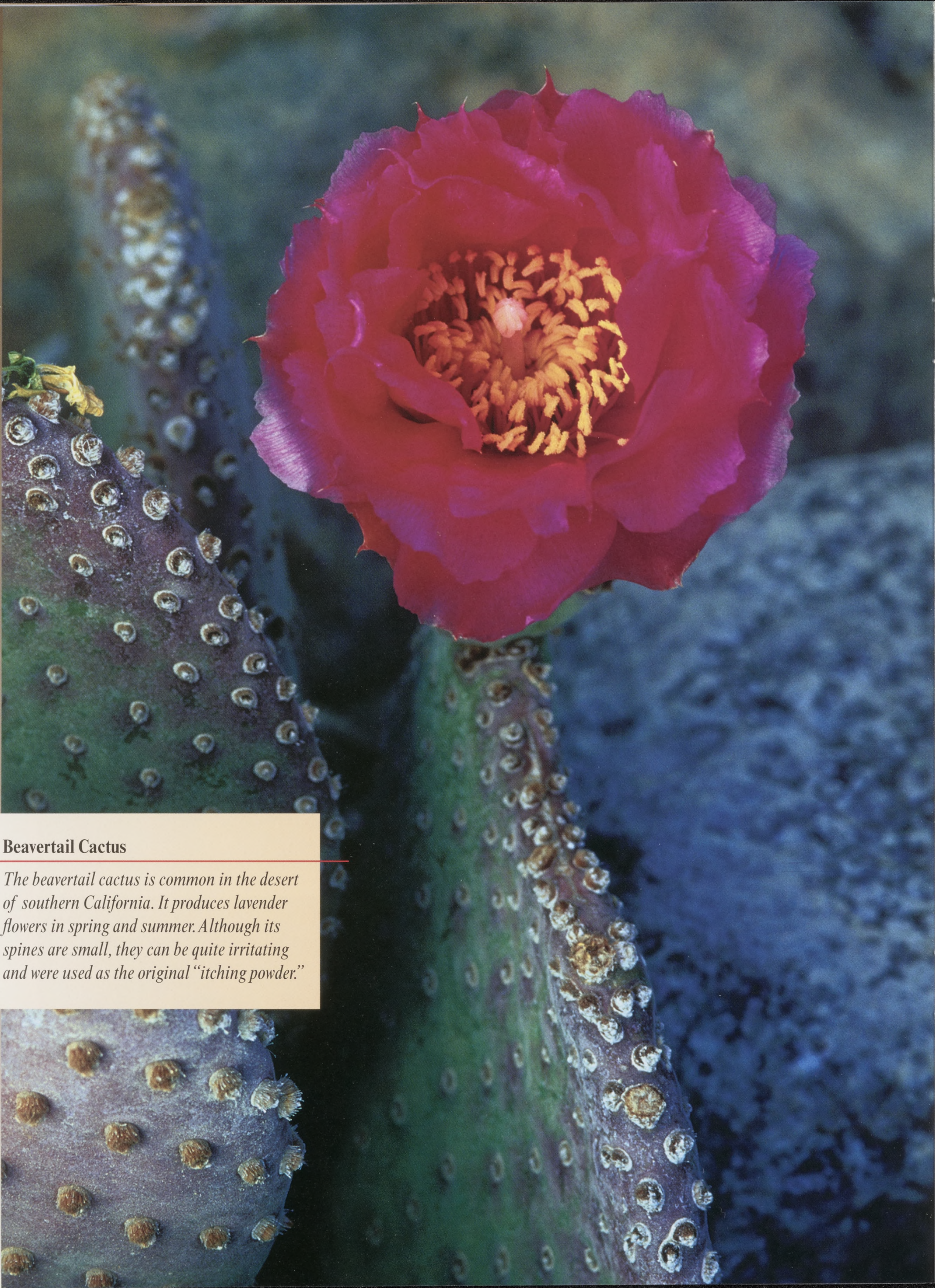
If you find yourself near a patch of prickly pear cactus, and you're especially fortunate, you might see a San Diego cactus wren. Like many other scrubland animals, they're growing scarcer as their habitat dwindles. Some 90 or so coastal sage and chaparral species are listed as threatened or endangered.

Several kinds of lizards live here. Watch for alligator lizards, skinks, or beautiful orange-throated whiptail lizards as they sun on the trail or scurry off as you approach. Coast horned lizards lie low, usually staying half buried in loose soil.

Clocked at 15 m.p.h., the roadrunner needs more than speed to escape the urban encroachment that threatens its existence.



This attractive and extremely docile snake has become a favorite of snake keepers. Habitat loss, compounded by its popularity as a pet, has placed the rosy boa in danger.



Beavertail Cactus

The beavertail cactus is common in the desert of southern California. It produces lavender flowers in spring and summer. Although its spines are small, they can be quite irritating and were used as the original "itching powder."

Desert

Inland from the coastal mountains, away from the cities and ocean, desert covers the eastern quarter of San Diego County. Much of our desert lies protected within the 600,000-acre Anza-Borrego Desert State Park—the largest state park in the country.

Lands of legend and myth, deserts seem stark and forbidding. And with water scarce and the climate sunbaked and severe, these dry lands do present special challenges to plants and wildlife. But many have adapted to meet those challenges and deserts teem with an amazing diversity of life.

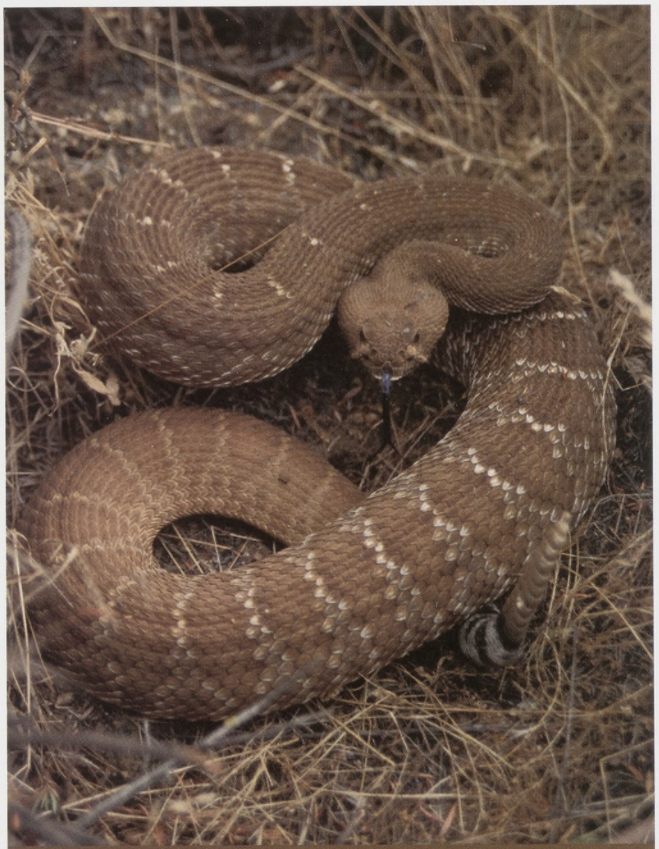
There's more to our desert than just desert: the wild lands of Anza-Borrego range from rugged peaks to salty, sea-level playas. Between them lie a variety of habitats ranging from rocky canyons, badlands, rich oases filled with palm trees, river bottoms, and winding streams lined with sycamores, cottonwoods, and alder.

Plant life changes with geology, elevation, and rainfall. Sparse shrub forests of creosote bush—one of the most drought tolerant desert plants—cover the lower desert flatlands of Anza-Borrego. Depending on winter rains, spring finds the desert floor bursting with carpets of colorful wildflowers in all colors of the rainbow. Scattered among them grow the rare elephant and Borrego asters.

Slightly higher up, the slopes prickle with cactus scrublands. Most abundant is the beavertail cactus, aptly named for its broad, flat stems. With it grows dozens of other species: barrel cactus, prickly pear, hedgehogs, pincushions, and furry-looking teddy bear chollas.

Here and there, palm oases lie nestled in protected canyons. Rare sources of water in this arid land, they support communities of life found nowhere else in the desert. Animals, including bighorn sheep, come here from miles around to drink.

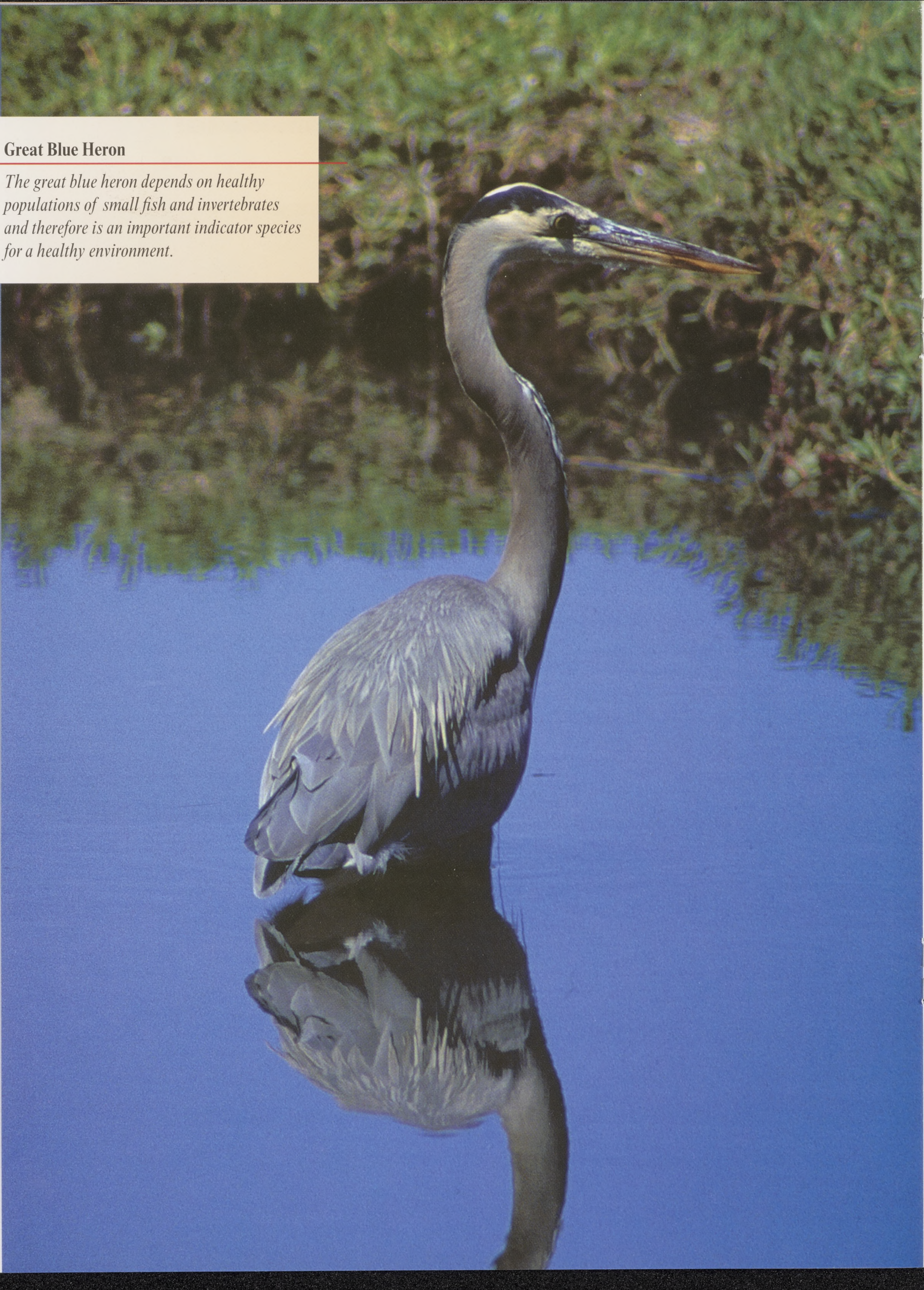
Some 240 species of birds live in the desert. Cactus wrens build their large nests among spiny chollas and shrubs, safe from predators. Roadrunners hunt for lizards, snakes, and insects along the desert floor, then speed away when danger threatens. Listen for the hoarse croaks of ravens sounding from branches and rocky perches and the high-pitched trills of black-throated sparrows on desert slopes.



Despite its proximity to one of the largest urban sprawls in the world, the red diamond rattlesnake remains a little-known species. The Zoological Society operates a field study to discover this snake's habitat requirements.

The desert is home to 68 kinds of mammals. Kangaroo rats, harvest mice, and other desert mice stick to the cool safety of their burrows by day. At night, they emerge to scour the desert looking for seeds and insects. By morning, they've holed up again, a maze of tracks in the dirt the only sign of their explorations.

Species of desert insects—including beetles, butterflies, moths, and grasshoppers—number in the thousands. Powerful wasps called tarantula hawks search out tarantulas in their burrows, paralyze them with their sting, and lay their eggs on them. When the eggs hatch, the larvae eat the tarantula from the inside out before changing into adult wasps.



Great Blue Heron

The great blue heron depends on healthy populations of small fish and invertebrates and therefore is an important indicator species for a healthy environment.

Streamsides

In the days before cities and suburbs, many streams wound their way down canyons and valleys throughout San Diego County. Along their sides ran ribbons of lush, green vegetation. Refreshingly different from the surrounding dry lands, streamsides offer cool shade and abundant water.

Streamside habitat gives sanctuary for an abundance of plants and animals that live nowhere else. Thickets of water-loving shrubs and trees grow here. In the fall, the leaves of sycamores, cottonwoods, and maples change colors, brightening the landscape and giving San Diegans a glimpse of East Coast autumns.

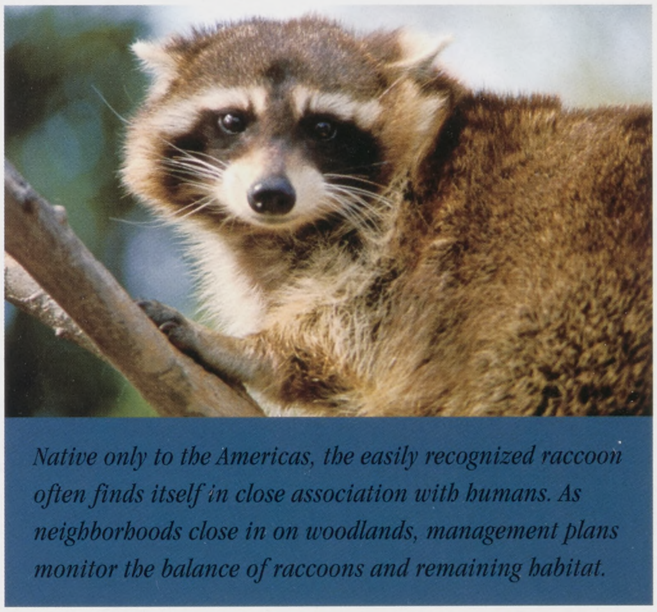
The trees provide homes for birds and other animals. Belted kingfishers sit on overhanging branches, watching for fish in the waters below. When they spot one, they swoop down to deftly grab it in their powerful beaks.

Woodpeckers hammer on tree trunks seeking insects or drilling holes to store acorns. Brightly colored orange-and-black orioles flit through the treetops, while flycatchers sally forth from their perches to snap up flying insects. Hawks soar overhead. At night, the calls of great horned owls boom through the woods.

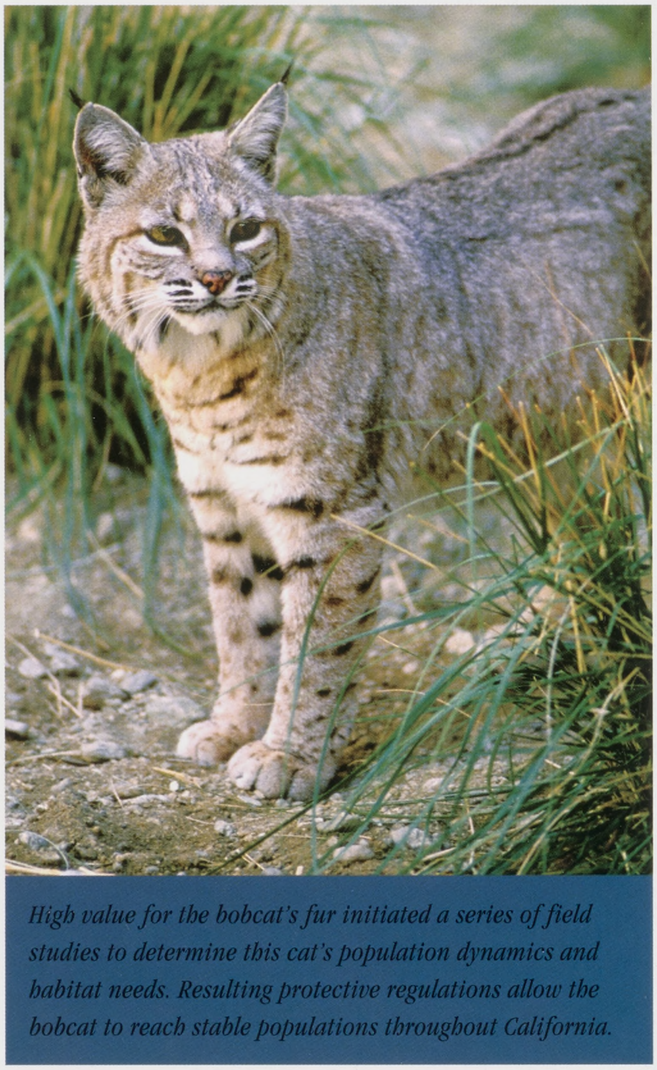
Mule deer live here as well. They come out to forage at twilight and in the early morning, then bed down during the day. Smaller mammals like mice, foxes, raccoons, and bobcats hide and hunt among the underbrush.

The moist streamsides make ideal habitat for frogs, toads, and salamanders, as well as lizards and some kinds of snakes. Many are threatened by loss of habitat. Many also fall prey to dogs and cats and people who illegally collect them to keep as pets.

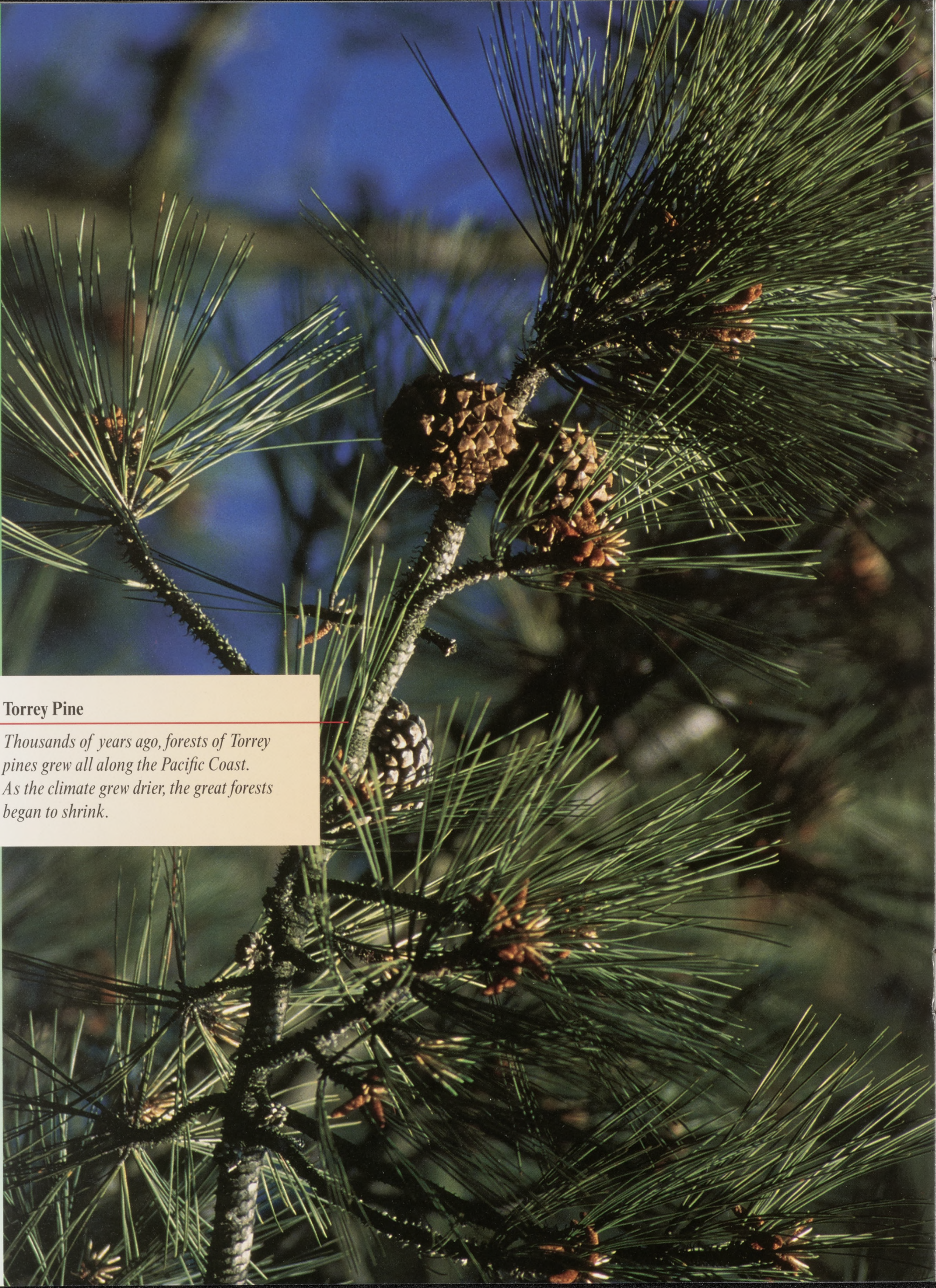
People flock to streamsides as well. The abundance of wildlife attracts birdwatchers and other nature lovers. Hikers enjoy moist, cool trails; picnickers relish the shady groves. Unfortunately for both wildlife and people, most of our streamsides are gone now, destroyed in the interests of development and flood control.



Native only to the Americas, the easily recognized raccoon often finds itself in close association with humans. As neighborhoods close in on woodlands, management plans monitor the balance of raccoons and remaining habitat.



High value for the bobcat's fur initiated a series of field studies to determine this cat's population dynamics and habitat needs. Resulting protective regulations allow the bobcat to reach stable populations throughout California.



Torrey Pine

Thousands of years ago, forests of Torrey pines grew all along the Pacific Coast. As the climate grew drier, the great forests began to shrink.

Torrey Pines

Along the county's north coast lies a special strip of coastal sage—seldom more than a mile wide—that's home to the rarest pine tree in the U.S. Here on sandstone cliffs bordering the beaches, where ocean breezes keep temperatures mild and sea fog holds in moisture, Torrey pines find their final strongholds. Ages ago, Torrey pines ranged all the way up the coast to the Pacific Northwest.

Our remaining groves—around 5,500 trees in total—are all now protected.

Today, this once widespread species clings to life along a thin strip of coastline in San Diego County and on Santa Rosa Island in the Channel Islands off Santa Barbara. Here ocean fog blocks the drying effects of the summer sun, and holds enough moisture for the pines to survive.

The pines help shape the local climate and the local community of plants and animals. The tree canopies provide more than just shelter. They create their own rain as fog condenses on the needles, then drips off to water the ground. A layer of fallen needles acts as a mulch to reduce evaporation and hold in precious moisture. As the needles decay, they enrich the otherwise poor limestone soil, providing a nourishing bed for seeds to sprout and grow.

Insects find food and shelter among dead and fallen trees. They become food for others in an intricate web of plants, pollinators, predators, and prey, all held together by the pines.

The environment, in turn, shapes the pines. The steady, salty ocean breezes give them a sculptured, windswept look. Scant rainfall and the infertile limestone soil limit their growth. Here in their native habitat they grow just 40 to 60 feet tall on average, with canopies spreading up to 30 feet across.

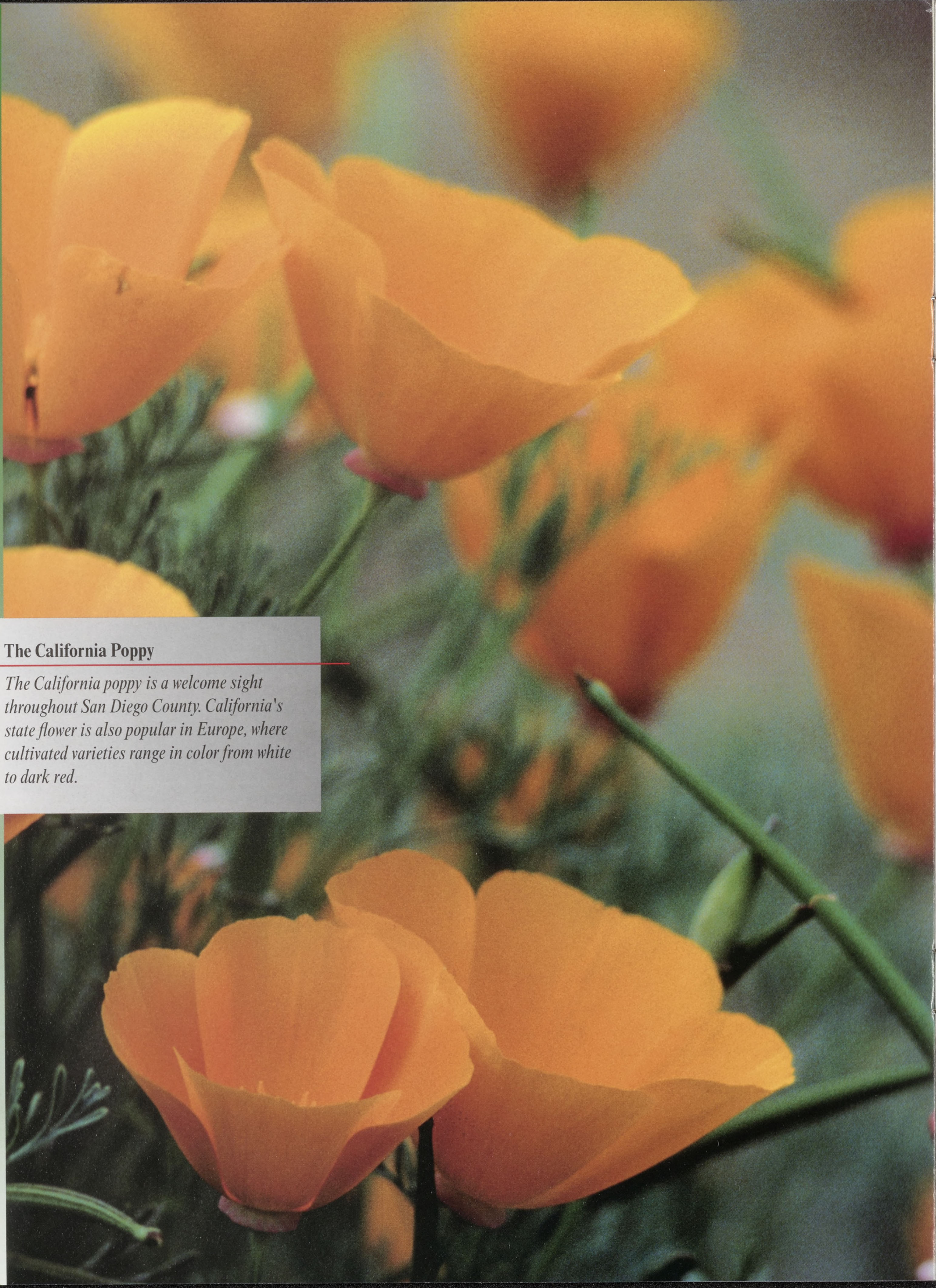
People once relied on this ancient forest for their survival. A group called the La Jollans lived here 8,000 years ago. Around 1,500 years ago, the Kumeyaay called this area home. It was a time of greater rainfall, and this hunter-gatherer culture developed a regional knowledge of medicinal plants as well as seasonal food sources. The pines provided wood for lodgings and cooking fires. Pine nuts were an important source of food. They could be eaten raw, or ground in rock mortars, either alone or with other seeds, to make flour.

Periods of prolonged drought weaken the pines and make them vulnerable to attack by Mexican bark beetles and Torrey pine twig beetles. The use of pesticides to kill the beetles would also kill other, beneficial insects and spread poison through the food chain. Instead, scent traps are used to attract and control the beetles.

Development of the land outside the reserve poses another problem. The pine community now stands isolated from other habitats. If a species of plant or animal dies out here, there's no way for the population to reestablish itself from nearby natural areas.
The native plant community is also under assault by the exotic plants used for landscaping in nearby residential areas. Their seeds spread into protected areas, where many sprout and grow, often out-competing native species.

In spite of threats, the Torrey pines still stand—a powerful demonstration of conservation in action. They also serve as reminder that in acting to save one species, we can help preserve the entire community of life to which they belong. And in preserving intact natural communities, we're ensuring the survival of many species.

The remarkable Acorn woodpecker breeds communally in groups composed of breeding males and females, as well as non-breeding helpers. Acorn woodpeckers work together to rear the next generation.



The California Poppy

The California poppy is a welcome sight throughout San Diego County. California's state flower is also popular in Europe, where cultivated varieties range in color from white to dark red.

Woodlands and Forests

Beginning in the foothills, scrubby chaparral gives way to woodlands and forests. Open oak woodlands carpeted with grasses, wildflowers, and patches of chaparral line canyons and the lower slopes. Higher up, generally above 4,500 feet, denser forests of pine, cedar, fir, spruce, and other conifers cover the mountainsides.

In the woodlands, ground squirrels, and woodrats scurry among the oaks, foraging for nuts and seeds. Mule deer browse among the bushes; look for them especially at Cuyamaca State Park. During the wet season, several kinds of salamanders prowl for insects under logs and among the moist leaf litter on the woodland floor. Some even climb up into the oaks. Birds live here in abundance. Meadowlarks and western bluebirds flit over the fields. The raucous cries of scrub jays and the soft cooing of band-tailed pigeons sound from the treetops.

It's hard to miss the colonies of acorn woodpeckers that nest in hollow trees. Their distinctive laughing calls make them easy to find; they're unmistakable in flight: bright flashes of black, red, and white. In summer, they feast on insects and acorns while drilling perfectly sized holes in the tree trunks to store a surplus of acorns to see them through the winter.

Life changes on higher slopes among the pine forests. Here, you'll find pinecones, not acorns, on the ground. A thick cushion of pine needles helps muffle sounds, creating a hushed silence. Trees grow closer together, their intermingling branches blocking the sun and keeping the forests in deep shade.

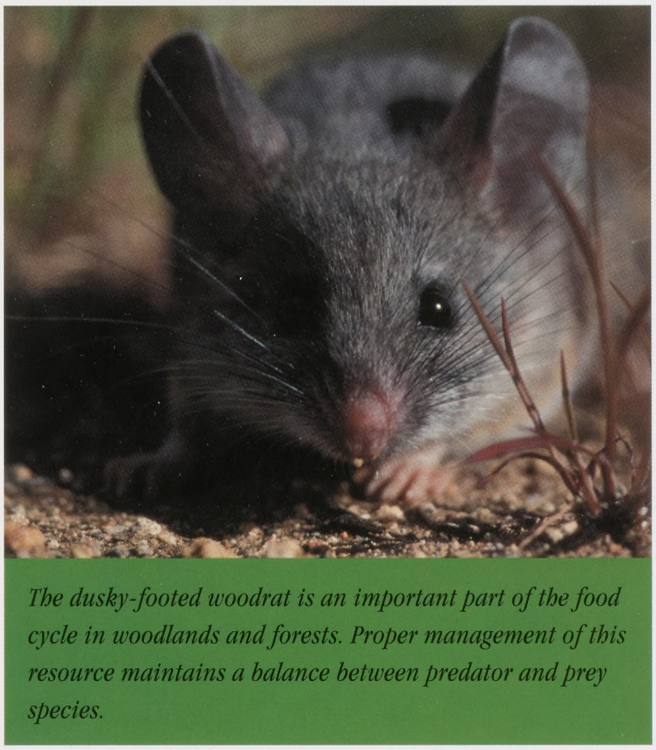
Though the needles and shade limit plant life on the forest floor, some plants have adapted to the conditions. The Laguna aster—found only in the Laguna mountains—is one of the most unique and beautiful of the 43 sensitive plants in our forests.

Birds are less conspicuous here. Darker blue than their scrub jay cousins, and sporting black crests, Steller's jays move among the branches in small groups. Coveys of quail hunt and peck their way across the forest floor. Hawks and golden eagles soar high overhead. Great horned and pygmy owls are usually heard, not seen, as they call at night.

Mountain lions are among the most elusive animals in both forests and woodlands. Wary and aloof, they cover large territories hunting for mule deer. They rarely bother people, but you should pay attention to caution signs at trailheads.

Much of our wooded land is protected within the Cleveland National Forest. Outside the national forest, smaller pockets of woodlands and forest dot hillsides and mountains around the county.

Like all native birds in the United States, the golden eagle is protected by law. Yet habitat destruction is reducing and fragmenting the open areas eagles need to find food.



The dusky-footed woodrat is an important part of the food cycle in woodlands and forests. Proper management of this resource maintains a balance between predator and prey species.

California Condor

California condors disappeared from San Diego habitats many years ago. Aggressive conservation efforts by many agencies, including the Zoological Society, may make it possible for the condor to appear again in the skies of San Diego County.

Going, Going... Gone?

Though we still have remnants of our native wild lands in San Diego County, we've already lost some of our most spectacular native animals, including pronghorn antelope, grizzly bears, and jaguars. Some still live elsewhere, but many have become extinct, gone from Earth forever.

Pronghorn Antelope

Herds of pronghorn antelope once roamed San Diego County, with Kearny Mesa a favorite local range. Antelope also lived in river valleys and the Anza-Borrego Desert. Long hunted by native Americans, their numbers began to decline with the arrival of Spanish explorers and American settlers. They'd become scarce by the late 1800s, and in 1883 the state outlawed antelope hunting. But by that time they were nearly gone here and their fate had been sealed. The last five were seen in Campo in 1922.

California Grizzly Bear

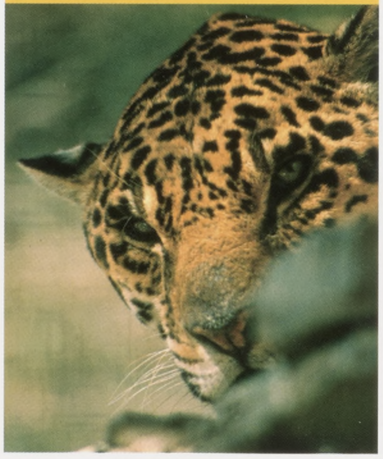
Grizzly bears were the most feared of native animals. Huge, powerful, and aggressive, settlers saw them as a dangerous threat to both livestock and people and systematically hunted them out of existence. In 1886, the San Diego County Board of Supervisors posted a $5 bounty for every bear killed. Fourteen years later, in 1900, the last grizzly in San Diego County was shot. Soon after, they were extinct throughout California. Most likely, they're gone from the state forever; such large mammals need hundreds of square miles of undisturbed habitat.

California condors once soared over San Diego County, held aloft by their nine-foot wingspan. But by mid-1900s they were nearly extinct, victims of lead poisoning, habitat loss, and the consumption of poisoned carcasses placed by farmers to kill coyotes and mountain lions.

California Condor

In the late 1970s the Zoological Society stepped in and helped to save these ancient vultures from extinction. The San Diego Wild Animal Park played a central role in the captive breeding program. By 1990, 40 condors were living in captivity and the first releases of young condors to the wild had begun. Today, their population continues to grow.

Jaguar



Jaguars once prowled California's coast ranges from San Diego to Monterey, where they preyed on deer, and later, livestock. But like other large predators, they were hunted to extinction in California. The last jaguar in the United States was killed in Palm Springs in 1860. On rare occasions—just six times in the last 40 years—jaguars enter the state from Mexico. Most of these have been shot.

Why They Disappeared

Animals become extinct for many reasons. Dinosaurs disappeared from our area millions of years ago, most likely victims of massive climate changes. Climate change also spelled the end of the mammoths and mastodons that once roamed through what's now the Anza-Borrego Desert.

More recently, jaguars, grizzlies, and antelope fell to overhunting or eradication programs. Gray whales almost met a similar fate, after being intensely hunted for their oil and ivory. By 1900, fewer than 2,000 gray whales survived. Since laws were enacted to protect them, their population has grown to more than 20,000, close to their original numbers.

Today, habitat destruction is the greatest threat to wildlife in southern California and throughout the world. In each habitat, natural communities live in an ever-shifting balance. Sun, rain, and soil, plants and animals interact in a myriad of ways. Change one part and you can disrupt the entire system.

San Diego County has seen increasing change as our population continues to grow. There are more homes, along with more freeways, schools, malls, and parking lots. And as our population grows, our natural lands shrink and become increasingly fragmented.

Pollution has also become a serious threat. From the 1950s through the 1970s, increased use of pesticides decimated bird populations, especially hawks and other birds of prey. During that time, peregrine falcons disappeared from San Diego County. Brown pelicans, once pushed to the very brink of extinction, have made a remarkable comeback in the past 20 years after pesticide use began to be regulated.

With people also come dozens of exotic species that can create havoc in local ecosystems. Feral and domestic cats take a heavy toll on birds and can wipe out populations of frogs along creeks. Argentine ants, which invade newly developed areas, out-compete native ant species. The loss of native ant species in turn threatens the survival of animals—such as the San Diego coast horned lizard—that feed on them.

More on the Brink?

While some of our remaining wetlands, forests and deserts now stand protected, habitat loss has devastated much of what once was. Nearly 85% of our original coastal sage habitat is gone. Ninety percent of our salt marshes have been destroyed. All of our beaches are commercially developed.

Each habitat supports unique communities of life. And the great diversity of habitats in San Diego County means that we're blessed with a great diversity of plants and animals. But as our natural habitats disappear, the species they support disappear as well. As a result, San Diego County has more threatened and endangered species than any other county in the continental United States. Hundreds of our native species are either listed as endangered or under consideration for listing.

Zoological Society of San Diego Conservation

Along with providing wildlife-related recreation and education, the conservation of our natural world stands as one of the three cornerstones of the mission of the Zoological Society of San Diego (ZSSD). And we've enjoyed great success in our conservation efforts around the world.

We've achieved an impressive list of "firsts" in breeding endangered species, including Calamian deer, Abyssinian ground hornbills, Arabian oryxes, and Przewalski's horses. We're one of the leading centers in breeding giant pandas.

We've been a leader in working to expand the traditional role of zoos to include wildlife conservation outreach efforts. We've conducted projects in such far-away places as Papua New Guinea, Indonesia, St. Lucia, Guyana, and Madagascar. And we've recently established a new Division of Applied Conservation in our Center for the Reproduction of Endangered Species (CRES) to further increase our conservation and environmental outreach efforts.

Not all our work takes place on the other side of the world. Much of it is focused on our own back yard, here in San Diego County. We've been working since 1978 to help save the California condor. In 1987, at the request of the Navy, we began on ongoing program to save the endangered San Clemente loggerhead shrike. And we manage the nest sites of endangered least terns on Port of San Diego land. Some programs begin through the individual initiatives of our dedicated staff, as when a CRES scientist undertakes field research to better understand the environmental pressures facing lizards we keep in our collection.

But successful conservation efforts require community awareness and support. And perhaps our most important role in local conservation comes through our community outreach efforts. A curator initiates a community-based program to provide butterflies for the Wild

Animal Park while protecting local habitat and improving livelihoods. An educator uses her knowledge and zoo background to go into the community to raise public awareness about our county's fragile wild lands. The Applied Conservation Division has launched numerous habitat public awareness projects. We have created newsletters, brochures, advertisements, public service announcements, slide presentations, and television shows that focus on San Diego's amazing natural world.

This booklet is another part of that ongoing effort. Our goal is introduce you to the wonderful diversity of habitats—our natural heritage—to be found just outside our back doors, and to tell some of the stories of life to be discovered in them. Our hope is that you'll explore and enjoy them, that you'll learn more about them, and that you'll help to ensure that they'll be there for future generations to enjoy.

Working Together Towards Conservation

We owe a great debt to conservation pioneers like Ellen Browning Scripps. Nearly a century ago, she recognized that Torrey pines and the coastal sage habitat where they lived were threatened. And she took action: devoting time and money to saving what was left.

Take a walk through the Torrey Pines State Park today and reflect upon how much just one individual with foresight and determination can do to help protect our wildlife and wild lands.

But San Diego County contains many vulnerable habitats and hundreds of species of special, but threatened, plants and animals. Thickets of Del Mar manzanita, patches of opuntia cactus, stands of Engelman oaks—all every bit as important, as beautiful, and as threatened as Torrey pines—need protection, need people to lend a hand in their cause.

Even an Ellen Browning Scripps couldn't save them all single handedly. But working together, we can save San Diego County's natural communities. Individuals, families, communities, and small businesses can make important contributions to conservation here in our own back yards.

If you belong to the Zoological Society of San Diego and help support its conservation work, you are already doing much to help the cause. Even simple, daily actions can have a profound impact. Recycle paper and packaging. Cuttting back on power and water usage helps the environment, while saving you money.

Take time to visit our wildlands and to learn more about San Diego's natural heritage. The World-Famous San Diego Zoo is a great place to start. But it's only a beginning–get out and enjoy!

Most amphibians are sensitive to changes in environmental conditions. Their permeable skin allows them to absorb and concentrate toxins, earning them the dubious role of environmental indicators.

Over the years, habitat loss and persecution reduced the range of the mountain lion, a species that once laid claim to the most extensive range of any land mammal in the Western Hemisphere. Today, their numbers are recovering, but as with all our local wildlife: they are adaptable, not invulnerable.

And at that very moment, we heard a loud whack!
From outside in the fields came a sickening smack
of an axe on a tree. Then we heard the tree fall.
The very last TruffulaTree of them all!

The Lorax said nothing. Just gave me a glance...
just gave me a very sad, sad backward glance...

And all that the Lorax left here in this mess
was a small pile of rocks, with the one word...
"UNLESS."

Whatever that meant, well, I just couldn't guess.
That was long, long ago.
But each day since that day
I've sat here and worried
and worried away.

"But now," says the Once-ler,
"Now that you're here,
the word of the Lorax seems perfectly clear.

UNLESS someone like you
cares a whole awful lot,
nothing is going to get better.
It's not.

Adapted from The Lorax by Dr. Seuss, 1971

CREDITS

San Diego's Habitats

AUTHORS
Tom Hanscom
Jeff Opdycke
Bill Toone

CONTRIBUTORS
Danny Simpson
Mike Wallace

COORDINATOR
Deirdre Ballou

DESIGNER
Barbara Ferguson Design

EDITORS
Allison Alberts
Michael Rigsby
Beth Sandler

PHOTOGRAPHERS
Allison Alberts
Kenneth Bohn
Ron Garrison
Ken Kelley
Jeff Lemm
Craig Racicot

DIGITAL IMAGING
Visual Services Department, ZSSD

PRINTING
Bordeaux Printers, Inc.

© ZSSD, 2003

Zoological Society of San Diego
www.sandiegozoo.org

Printed on recycled paper.

San Diego's diverse and varied wildlands are a rich tapestry
of life woven from many habitats.

Made possible by the Hattie Ettinger Conservation Fund,
San Diego Foundation, Reuben H. Fleet Foundation Fund